Amendment to the Claims

Claims 1– 4. Canceled

5. (Currently amended): ~~The~~ An isolated nucleic acid molecule ~~of claim 1, comprising a nucleotide sequence~~ which encodes a polypeptide having an amino acid sequence of SEQ ID NO: 12 or an amino acid sequence having at least 40% sequence identity thereto, ~~to an amino acid sequence selected from the group consisting of SEQ ID NOS: 2, 4, 6, 8, 10 and 12~~ wherein said polypeptide is a transmembrane protein which has 2,5-diketo-gluconate (2,5-DKG) permease activity.

6. (Currently amended): The isolated nucleic acid molecule of ~~claim 1~~ claim 5, comprising a nucleotide sequence which encodes a polypeptide having at least 80% sequence identity to ~~an amino acid sequence selected from the group consisting of SEQ ID NOS: 2, 4, 6, 8, 10 and 12~~ the amino acid sequence of SEQ ID NO: 12.

7. (Currently amended): The isolated nucleic acid molecule of ~~claim 1~~ claim 5, which encodes a polypeptide having ~~an amino acid sequence selected from the group consisting of SEQ ID NOS: 2, 4, 6, 8, 10 and 12~~ the amino acid sequence of SEQ ID NO: 12.

Claims 8 – 10. Canceled

11. (Currently amended): ~~The~~ An isolated nucleic acid molecule ~~of claim 1~~ comprising a polynucleotide which encodes a polypeptide having an amino acid sequence of SEQ ID NO. 12 or an amino acid sequence having at least 40% sequence identity thereto, wherein said polypeptide has 2,5-diketo-gluconate (2,5-DKG) permease activity, and wherein the polynucleotide is operatively linked to a promoter of gene expression.

12. (Original): The isolated nucleic acid molecule of claim 11, wherein said promoter is a *lac* promoter.

13. (Original): A vector comprising the isolated nucleic acid molecule of claim 11.

14. (Original): The vector of claim 13, comprising a spectromycin resistance gene.

15. (Original): A bacterial cell, comprising the vector of claim 13.

16. (Currently amended): The bacterial cell of claim 15, wherein said isolated nucleic acid molecule comprises a nucleotide sequence which encodes a polypeptide having an amino acid sequence at least 80% identical to ~~an~~ the amino acid sequence ~~selected from the group consisting of SEQ ID NO: 2, 4, 6, 8, 10 and 12~~ of SEQ ID NO: 12.

Claims 17 - 19. Canceled.

20. (Original): The bacterial cell of claim 15, which is of the genus *Klebsiella*.

21. (Original): The bacteria cell of claim 15, which is deficient in endogenous 2,5-DKG activity.

22. (Currently amended): The bacterial cell of claim 21, further comprising an isolated nucleic acid molecule encoding a polypeptide having 2-keto reductase activity and at least 80% sequence identity to SEQ ID NO: 14 ~~and 2-keto reductase activity~~.

23. (Currently amended): The bacterial cell of claim 21, further comprising an isolated nucleic acid molecule encoding a polypeptide having 5-keto reductase activity and at least 80% sequence identity to SEQ ID NO: 16 ~~and 5-keto reductase activity~~.

24. (Original): The bacterial cell of claim 15, which is of the genus *Pantoea*.

25. (Currently amended): The bacterial cell of claim 15, which expresses an enzyme that catalyzes the conversion of 2,5-DKG to ~~2-KLG~~ 2-keto-L-gulonic acid (2-KLG) .

26. (Original): The bacterial cell of claim 25, which expresses enzymes that catalyze the conversion of glucose to 2,5-DKG.

27. (Original): The bacterial cell of claim 26, which is deficient in endogenous 2-keto-reductase activity.

Claims 28 – 35. Canceled

36. (Currently amended): A method of using the isolated nucleic acid molecule of claim ~~1~~ 5 to enhance ~~2-KLG~~ 2-keto-L-gulonic acid (2-KLG) production, comprising ~~expressing the polypeptide encoded by said~~ a) introducing the isolated nucleic acid molecule of claim 5 into ~~in~~ a bacterial cell which expresses an enzyme that catalyzes the conversion of 2,5-DKG to 2-KLG, b) allowing expression of the polypeptide encoded by said nucleic acid molecule and c) culturing the bacterial cell under suitable conditions to produce 2-KLG.

37. (Original): The method of claim 36, wherein said bacterial cell further expresses enzymes that catalyze the conversion of glucose to 2,5-DKG.

38. (Original): The method of claim 37, wherein said bacterial cell is deficient in endogenous 2-keto reductase activity.

39. (Original): The method of claim 36, wherein said bacterial cell is of the genus *Pantoea*.

40. (Original): The method of claim 36, further comprising converting said 2-KLG to ascorbic acid.

Claims 41 – 48. Canceled

49. (New): The bacterial cell of claim 15, which is an *E. coli* cell.

50. (New): The method of claim 36, wherein the nucleic acid molecule encodes a polypeptide having at least 80% sequence identity to SEQ ID NO: 12.

51. (New): The method of claim 36, wherein the nucleic acid molecule has the sequence of SEQ ID NO: 11 or a sequence having at least 95% sequence identity thereto.

52. (New): A method for increasing the transport of 2, 5-DKG across a cell membrane into a bacterial host cell comprising a) introducing the nucleic acid molecule of claim 5 having 2,5-DKG permease activity into a bacterial host cell, b) allowing expression of the 2,5-DKG permease and c) culturing the bacterial host cell under suitable conditions for the transport of 2,5-DKG into the bacterial host cell.

53. (New): The method according to claim 52, wherein the bacterial host cell is an *E. coli*, *Pantoea* or *Klebsiella* host cell.

54. (New): The method according to claim 52, wherein the nucleic acid molecule encodes a polypeptide having at least 80 % sequence identity to SEQ ID NO: 12.

55. (New): The method according to claim 52, wherein the nucleic acid molecule has the sequence of SEQ ID NO: 11 or a sequence having at least 95% sequence identity thereto.

56. (New): An isolated oligonucleotide comprising at least 20 contiguous nucleotides of the nucleotide sequence of SEQ ID NO: 11, wherein said oligonucleotide is used as a probe and hybridizes under stringent hybridization conditions to a nucleic acid that encodes a polypeptide having 2,5-diketo-D-gluconic acid permease activity.